REMARKS/ARGUMENT

Applicant responds herein to the Office Action dated December 1, 2005.

Applicant's attorneys appreciate the Examiner's thorough search and examination of the present patent application and for finding the subject matter of Claims 2-4 allowable.

Claims 1-16 are pending in this application. Claims 1 and 5-16 were rejected. Claims 2-4 were objected to.

In response to the Examiner's objection, the first paragraph of the specification was amended to replace the serial number with the number of a patent issued in the parent of the present application.

Claims 5-16 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner indicates that the claimed "structure or method steps directed to the shape detecting means detecting the shape of the intracavitary portion *using as a reference the location information of the first marker*" is not disclosed. The Examiner further points out that the "disclosed detection of the source coils does not rely on, in any way, the marker coils as a reference when being detected". (Page 2, second sentence from the bottom of the Office Action mailed December 1, 2005).

Claims 5-16 stand further rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Here the Examiner states that the detection of the shape of the endoscope using the marker location information as a reference is not enabled. (page 3, last sentence of section 4 of the Office Action mailed December 1, 2005).

In response to the above rejections, independent claims 5, 6, 9, 13, and 14 were amended to clarify that the location coordinates of the marker are used as a reference when processing the coordinates of the graphic data, not for detecting the shape of a portion of an insertion unit of an endoscope inserted into a subject or producing graphic data expressing the shape of the portion of the insertion unit. The support for these amendments is provided below.

The Background of the Invention section of the specification in explaining the problems existing in the prior art, points to the problem of discerning the shape of the insertion unit of the endoscope in a patient's body. (Page 2, lines 9-18) In the prior art, sensor coordinates along the coordinate axes are collected and used to represent the position of the endoscope inside the subject's body. However, such representation is true only if the patient lies perfectly still. It is difficult for a patient undergoing a procedure involving the endoscope not to move or shift during the insertion phase or during other phases of the procedure.

The claimed invention provides a solution. According to the specification and the amended claims of the present application a reference is used for processing the coordinates of the graphic data expressing the previously detected shape of a portion of an insertion unit of the endoscope inserted into a subject. On page 19, lines 29-30 the specification states:

> "the coordinates of the point specifying the location of the anus is regarded as a reference point"

further, on page 20, lines 28-29, the specification continues:

> "the first marker coil 18a may be placed at the location of the anus and used as an anus marker coil."

The flowcharts depicted in FIGS. 5 and 14 describe steps performed for graphically indicating the shape of an endoscope. (see page 21, line 17 to page 23, line 8 and page 29, line 26 to page 31, line 24) Each flowchart includes a step S5 and S25, respectively, that describes adopting the first marker as anus marker.

This use of the reference and its function is summarized on page 51, lines 10-15 of the specification as follows:

> " According to the present embodiment, a reference point, or more particularly, the coordinates of a reference point is (are) calculated, and the coordinates of a point specifying the distal position of the insertion unit 7 that has just been inserted is shifted in parallel to the reference point. Even if the patient changes his/her posture, the graphical indication of the shape of the endoscope can be maintained to be in the center of the monitor 24."

In addition to reciting "producing graphic data expressing the shape of the portion of the insertion unit", amended claims 5 and 6 now recite "processing graphic data coordinates" and "the coordinates processing using as a reference the location coordinates of said marker means"; amended claim 9 now recites "processing graphic data coordinates using the first location coordinates of said first marker as a reference"; amended claim 13 now recites "processing graphic data coordinates using the location information as a reference"; and amended claim 14 recites "processing coordinates for graphically indicating on a display the shape of the inserted portion".

Thus rejections of claims 5-16 under 35 U.S.C. §112, first paragraph are believed to be overcome by the above presented arguments and claim amendments. Claims 5-16 are believed to be patentable.

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,059,718 to Taniguchi et, al. ("Taniguchi 1").

Claim 1 recites "a first marker means for marking a position on the subject at which the endoscope is inserted" and "a display control means for graphically indicating intracavity insertion shape data produced by the shape detecting means, the display control means being configured to graphically indicate on a display means the shape of an intracavitary portion of the insertion unit obtained by subjecting the intracavity insertion shape data produced by the shape detecting means to coordinate processing with the location information of the marker acquired by the marker acquiring means as a reference".

In section 6 on page 3 of the Office Action mailed December 1, 2005, the Examiner asserted that marker m shown in Figure 156 of Taniguchi 1 is "same or similar" to the claimed first marker means. Marker m is discussed in Taniguchi 1 once. That discussion is limited to the following sentence found in col. 112, lines 58-61:

> "Thus, a scope form portion of the Y-coordinate position (an upper one in FIG. 156) larger than the Y-coordinate position of the body marker m shown by the square is displayed.

The text of the prior art mentioned by the Examiner in fact, does not seem to describe the first marker means of the present application. In the present application, the claimed first marker means is a special structure that serves a special purpose, not disclosed in the prior art. The marker means is located inside the patient at the entry point of the endoscope. If the patient moves all coils and markers on and inside his/her body move together. Thus, because the first marker means is designated as a reference point, its coordinates can be used to adjust the coordinates of other coils/markers on and inside the patient's body. That is the purpose of the first marker means, whose coordinates are used as a reference to process insertion shape data coordinates of other coils/markers.

Taniguchi 1 does not teach the above feature and its structure. To the contrary, Taniguchi 1 reveals a failure to appreciate the teachings of the present invention. In fact, this reference teaches away from the present invention. Taniguchi 1 mentions in several places the problem or concern with a patient moving. For example in col. 60, lines 50-54 it states:

> "However, if the form which exists outside the region is not totally displayed, in the situation where almost all the endoscope is out of the region by movement of the patient or the like, the situation where almost no forms are displayed is considered."

and further in col. 67, lines 44-45 it states:

> "Moreover, the plates may be used as body markers for confirming a position of the body of the patient."

In each case, the suggested solution is to place a marker outside the patient's body, on the table and above it. Taniguchi 1 is clearly struggling to solve the problem of patient moving. In col. 41, lines 64-67 an auxiliary means that knows the position of the inserted scope in relation to the actual position of the patient is proposed:

> "Such means is used, and the marker coil is moved outside the body, whereby it is made possible to recognize the position of the scope form when inserted in relation to the marker coil.",

and the use of an overhead camera is proposed in col. 57, lines 23-25:

> "FIG. 65 is an explanatory view of a method of detecting a position of the patient 5 on the bed 4, by the TV camera 63. In FIG. 65, an image picked up by the TV camera 63 is an image indicated by broken lines below the cable in the FIG."

In col. 106, lines 59-64 Taniguchi 1 declares that it is possible to provide auxiliary means for knowing the insertion position of the scope in relation to the actual position of the patient. That declaration reads as follows:

> "Such means is used, and the marker is moved outside the body, whereby it is possible to confirm the position of the form of the inserted scope in relation to the marker."

Finally, in not so many words, Taniguchi 1 admits its failure to deal with the movement of the patient by teaching in col. 116, lines 50-55, as:

> "For example, whenever motion of the patient is a concern, such as when the form display is conducted at a part or the like close to the heart, the freeze mode is selected whereby it is possible to display the scope form under the still image. Accordingly, it is possible to easily grasp the scope form without being affected by the motion of the patient."

Applicants closely studied Taniguchi 1, not only the sections presented by the Examiner. The limitations asserted by the Examiner are simply not there. No discussion of using a marker for marking a position on the subject at which the endoscope is inserted, or using the location information of the marker as a reference in processing of other coil/marker coordinates inside the patient's body, or coordinating the graphic data with the location information of the marker as a reference is present in Taniguchi 1. Thus, Taniguchi 1 does not suggest the recitations of claim 1.

Claim 1 stands rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,773,393 to Taniguchi et, al. ("Taniguchi 2"). In response, a terminal disclaimer in accordance with 37 C.F.R. 3.73(b) is provided herewith.

Thus, independent claim 1 is patentably distinct from Taniguchi 1. A terminal disclaimer is provided with regard to Taniguchi 2. Claims 2-4 depend directly from above discussed independent claim 1 and are, therefore, patentable for the same reasons, as well as because of the combination of features in those claims with the features set forth in the independent claim 1. Claims 5-16 are also believed to be patentable for the reasons discussed above.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on March 29, 2006:

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